The Royal Society of Medicine

Journal of the Royal Society of Medicine; 2015, Vol. 108(5) 160–164
DOI: 10.1177/0141076815585057

Curiosity. Are you curious enough to read on?

Ami Schattner
Ethox Centre, University of Oxford, Rosemary Rue Building, Old Road Campus, Headington, Oxford OX3 7LF, UK
Corresponding author: Ami Schattner. Email: amischatt@gmail.com

Curiosity is a universal and omnipotent, predominantly human trait.[1] It underlies child development and plays a major role in learning, discovery and art. In between, it is the spice of daily life and a strong bonding element between people. For clinicians, curiosity makes the difference between tiresome 'automatic pilot' practice[2] and keenly expecting to meet a new challenge, a new learning opportunity and a new person on each encounter.[3] To feel and be able to impart this element of renewal and enthusiasm is perhaps the greatest achievement of medical educators, and curiosity is the *sine qua non* of this and of any meaningful research. No wonder that curiosity (i.e. 'inquisitiveness') is an established primary goal of medical education[4] and an acknowledged component of professional competence.[5]

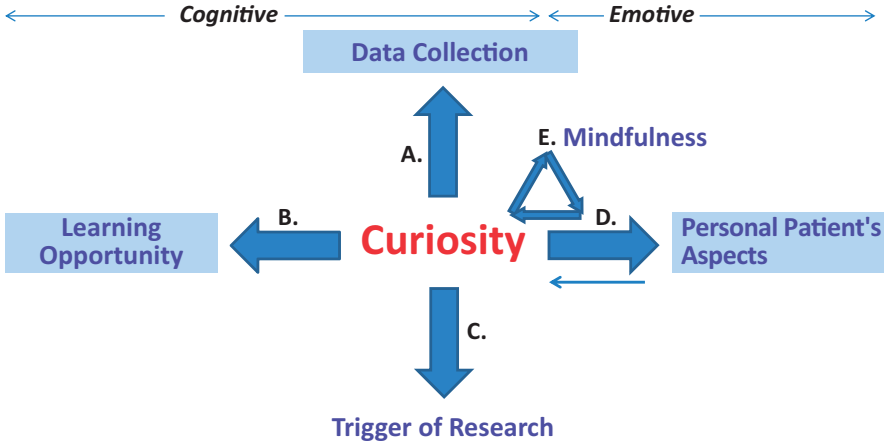
Yet, 'curiosity' as a key attribute to success is not mentioned during residencies and research fellowships. Although curiosity and Observation (importantly, one begets the other) can be acquired and cultivated,[6,7] its ingrained presence must be a valuable asset, but it is not evaluated among medical school candidates. In tandem with the scarcity of curiosity as a focus of teaching or training, but the term is relatively poorly represented in the medical literature. A PubMed search for 'curiosity' AND 'medical education' yields only few publications, mostly irrelevant. Although highly humanistic physicians identified a genuine sense of being curious about their patients as an essential fuel sustaining their humanism,[8] and the patients' perspective is no different,[9] research evidence is practically non-existent. Considering the key role of curiosity in medicine (Figure 1), these deficiencies are surprising.

If defined as an innate attitude of sincere, widely applied interest in other persons encountered and in things observed, curiosity is associated with a desire to know more and ideally has seven important characteristics. It is omnipresent, and not just clinical. It is target-independent and applies to numerous everyday observations and encounters, often to small details, and not only to grand or unique experiences. It is a lifelong trait, and not temporary or occasional. It is friendly, and not intrusive, felt by the other person and very likely to elicit a warm response. It is bidirectional, mostly directed outward but also bearing inwards as in introspection, reflection and mindfulness. It is conceived as pleasurable, and not a nagging duty. Importantly, it always leads to thought and action, and is not just passive.

In the patient–provider encounter, these broad characteristics ensure substantial curiosity-driven cognitive advantages for the physician, as well as emotive opportunities for both parties (Figure 1). Their application will yield better quality of communication and elicitation of the patient's history, concerns and signs (Figure 1A), and frequent search for patient-tailored evidence yielding improved decision-making. Curiosity also underlies tracking belated tests and verifying patient outcomes, establishing curiosity as key to imperative feedback, habitual learning and advancement (Figure 1B). Moreover, the physician's interest will soon translate to knowing and acknowledging the patient,[8,10] and correctly identifying common emotional and contextual problems that need attention. Increasing empathy and commitment naturally follow. Thus, curiosity begets emotional engagement and greater therapeutic efficacy:[11,12] patients are quick to sense when their provider truly cares (Figure 1D, bidirectional arrow) and respond by better coping and increased satisfaction, trust and adherence, that may achieve significant improvement in patient's quality of life and clinically important 'hard' health outcomes.[12–15] A curiosity-based approach can therefore advance health outcomes by two distinct mechanisms, cognitive and emotive, strongly enhancing a currently hampered patient–provider relationship[16] and the provision of patient-centred care, a major Institute of Medicine goal[17] (Figure 1A, B, D).

These substantial multiple benefits contrast with the often-prevailing cursory history and examination; infrequent search for evidence-based solutions; inattention to patients' concerns or feelings; and inadequate patient-centred care or shared decisions.[17–21] Expected providers' gains are no less important. Up to 60% of physicians report symptoms of burnout (defined as emotional exhaustion, low

Figure 1. Five major domains are strongly affected by curiosity (an original perspective): A. Data collection – more comprehensive, better elicitation of the patient's history, narrative, contextual factors and improved observation and detection of examination findings. B. Learning opportunity – patient-oriented, reflexive problem-based learning. Curiosity facilitates finding the best available answers for the patient, underlies a habit of obtaining follow-up, and ensures continuous professional development. C. Research – potential trigger of formulating a general research question and developing future original research. D. Personal view – understanding the patient's identity and ubiquitous emotional aspects, whether primary or reactive to the illness. Sensed by the patient, it leads to reciprocal trust, adherence and improved health outcomes. E. Mindfulness, introspection, reflection equal self-directed curiosity that improves indicators of patient-centred care and physicians' well-being.[7] A (data), B (learning) and C (research) are predominantly cognitive, while D (personal) and E (mindfulness) are primarily emotive and promote empathy. A (data), B (learning) and D (personal) are all patient-centred (highlighted). C (research) is science-centred, and E (mindfulness) constitutes self-centred-curiosity. Only excellence in C (research) is considered prestigious and associated with career advancement.



sense of accomplishment and treating patients as objects) impairing their quality of life and the quality of care they provide.[22] Arguably, a curiosity-based approach (including self-directed curiosity as in reflective, mindful practice; Figure 1E) may constitute an effective antidote,[7] infusing daily practice with experience and meaning: physician's job satisfaction is likely to increase together with diminishing stress, burnout and fatigue, improved wellbeing and enhanced professional performance involving fewer errors and greater empathy.

Given the immense impact of the five domains of curiosity in medicine (Figure 1) and its manifold prevalent barriers (Table 1),[23] bland declarations[4,5] need to be supplemented by action. Curiosity is conspicuously absent from either the Royal College of Physicians report on 'Changing doctors in changing times' (2010) or the General Medical Council 'Good medical practice' update (2013), although central to their imperative goals. Curiosity should be much more in the currency of educators' and providers' thoughts, since current medical education may in fact have a suppressive effect on curiosity (Table 1).[24–26] However, no tools exist that capture this intangible qualitative aspect of the patient–physician interaction. Further research is clearly indicated, since current evidence on methods of measuring and cultivating curiosity throughout medical education remains in its infancy.

Curiosity should then be evaluated among medical school candidates as part of the selection process and nurtured throughout medical school by interventions that focus on training the eye and the mind as in visual art observation,[6] small-group learning,[27] accomplishing a genuinely patient-centred encounter founded on listening and reacting to the patient[14,25,28–30] and developing habitual mindfulness and reflection.[2,7,16] Reading Fitzgerald's classic monograph[31] often leaves a deep impression on students. Since true curiosity that is detached from the patient is hard to envisage, increased exposure to bedside teaching rounds is likely to foster curiosity,[32,33] particularly when led by effective clinician role models.[29] Curiosity could be evaluated by using standardised patients with 'half-hidden' clues amenable to curiosity. The common accumulating barriers to curiosity (Table 1)[24,31] can perhaps be overcome by Continuing Medical Education programmes incorporating interactive quiz-based folding case presentations,[34] simulation exercises,[35] improvisational workshops,[30] Balint groups,[36] reflective writing and

Table 1. Postulated major obstacles to the expression of curiosity in today's clinical practice.[a]

I. Educational deficiencies
• Curiosity 'below the radar' – poor awareness
• Too little time spent at the bedside
• Too few role models
• Deficient training in communication and 'narrative competence'
• Impaired cultural competence skills vs. increasing diversity
• Overwhelming clinical information and detail vs. poor preparation
• Over-emphasis on efficiency, focus and restraint
• Exam-centred learning
• Passive 'spoon feeding' ≫ independent learning
• Atmosphere promoting anxiety and detachment
II. 'Culture of medicine' factors
• The 'Hidden curriculum' – no marks for Curiosity-driven excellence in patient-centred care
• Technology-focused and test-focused encounter, not really patient-centred
• Patient-centred care perceived as time-consuming, unrewarding and non-prestigious
• Patients perceived as wanting prescriptions, tests and referrals – not a 'Curiosity'-driven encounter
• Defensive practice
III. Work environment factors
• Overburdened schedules vs. time constraints
• Stress from frequent interruptions, administrative burden
• Short ambulatory encounters and short hospital length of stay; poor continuity of care; fragmentation of care
• Diminished sense of control; regulators stressing form-filling and restrictions
IV. Physician's personal factors
• Preoccupation with personal problems
• Focus on other preferences (e.g. remuneration)
• Poor tolerance of uncertainty
• Worry about possible malpractice litigation – seeing the patient as a potential adversary
• Build-up of unvented work-related emotions (faulty feedback and reflection)
• Overconfidence; remnants of paternalism
• Attrition, fatigue, burnout, cynicism

[a]Based on extensive literature on patient–physician relations, clinical excellence and medical education.

narrative-focused exercises[37,38] which need to be more widely disseminated.[6,7,38] Training providers to non-verbally express curiosity, interest and empathy is important and feasible,[39] although most non-verbal communication is subconscious, and sincere curiosity will be instinctively felt by the patient (Figure 1D). System changes are also called for (Table 1, III) but may take more time to implement.[16] For now, educational changes, awareness, self-training and a change in attitude can readily accomplish much in reinvesting medical education and our patient–provider relationship with more curiosity.

Declarations

Competing interests: None declared

Funding: None declared

Ethical approval: Not applicable

Guarantor: AS

Contributorship: Sole author

Acknowledgements: None

Provenance: Not commissioned; editorial review

References

1. Gregory RL, ed. *Oxford Companion to the Mind*. 2nd ed. Oxford: Oxford University Press, 2004.
2. Epstein RM, Siegel DJ and Silberman J. Self-monitoring in clinical practice: a challenge for medical educators. *J Contin Educ Health Prof* 2008; 28: 5–13.
3. Schattner A. The clinical encounter revisited. *Am J Med* 2014; 127: 268–274.
4. Alpern RJ and Long S. *Scientific Foundation for Future Physicians*. Washington, DC: Association of American Medical Colleges, 2009.
5. Epstein RM and Hundert EM. Defining and assessing professional competence. *JAMA* 2002; 287: 226–235.
6. Naghshineh S, Hafler JP, Miller AR, Blanco MA, Lipsitz SR, Dubroff RP, et al. Formal art observation training improves medical students' visual diagnostic skills. *J Gen Intern Med* 2008; 23: 991–997.
7. Krasner MS, Epstein RM, Beckman H, Suchman AL, Chapman B, Mooney CJ, et al. Association of an educational program in mindful communication with burnout, empathy, and attitudes among primary care physicians. *JAMA* 2009; 302: 1284–1293.
8. Chou CM, Kellom K and Shea JA. Attitudes and habits of highly humanistic physicians. *Acad Med* 2014; 89: 1252–1258.
9. Deledda G, Moretti F, Rimondini M and Zimmermann C. How patients want their doctor to communicate. A literature review on primary care patients' perspective. *Patient Educ Couns* 2013; 90: 297–306.
10. Peabody FW. The care of the patient. *JAMA* 1927; 88: 877–882.
11. Halpern J. Empathy and patient-physician conflicts. *J Gen Intern Med* 2007; 22: 696–700.
12. Derksen F, Bensing J and Lagro-Jansen A. Effectiveness of empathy in general practice: a systematic review. *Br J Gen Pract* 2013; 63: 376–384.
13. Martin LR, Williams SL, Haskard KB and DiMatteo MR. The challenge of patient adherence. *Ther Clin Risk Manag* 2005; 1: 189–199.
14. Schattner A. The silent dimension. Expressing humanism in each medical encounter. *Arch Intern Med* 2009; 169: 1095–1099.
15. Epstein RM, Fiscella K, Lesser CS and Strange KC. Why the nation needs a policy push on patient-centered health care. *Health Aff (Millwood)* 2010; 29: 1489–1495.
16. DeVoe JE, Nordin T, Kelly K, Duane M, Lesko S, Saccocio SC, et al. Having and being a personal physician: vision of the Pisacano scholars. *J Am Board Fam Med* 2011; 24: 463–468.
17. Berwick DM. A user's manual for the IOM's 'quality chasm' report. *Health Aff (Millwood)* 2002; 21: 80–90.
18. Beckman HB and Frankel RM. The effect of physician behavior on the collection of data. *Ann Intern Med* 1984; 101: 692–696.
19. Ruiz-Moral R, Perez Rodriguez E, Perula de Torres LA and de la Torre J. Physician-patient communication: a study on the observed behaviours of specialty physicians and the way their patients perceive them. *Patient Educ Couns* 2006; 64: 242–248.
20. Levinson W, Gorawara-Bhat R and Lamb J. A study of patient clues and physician responses in primary care and surgical settings. *JAMA* 2000; 284: 1021–1027.
21. Schattner A. Being better clinicians. An acronym for excellence. *QJM* 2013; 106: 385–388.
22. West CP, Shanafelt TD and Kolars JC. Quality of life, burnout, educational debt, and medical knowledge among internal medicine residents. *JAMA* 2011; 306: 952–960.
23. Coulehan J. Viewpoint: today's professionalism: engaging the mind but not the heart. *Acad Med* 2005; 80: 892–898.
24. Newton BW, Barber L, Clardy J, Cleveland E and O'Sullivan P. Is there hardening of the heart during medical School? *Acad Med* 2008; 83: 244–249.
25. Batt-Rawden SA, Chisolm MS, Anton B and Flickinger TE. Teaching empathy to medical students: an updated, systematic review. *Acad Med* 2013; 88: 1171–1177.
26. Dyche L and Epstein RM. Curiosity and medical education. *Med Educ* 2011; 45: 663–668.
27. Koh GCH, Khoo HE, Wong ML and Koh D. The effects of problem-based learning during medical school on physician competency: a systematic review. *CMAJ* 2008; 178: 34–41.
28. Platt FW, Gaspar DL, Coulehan JL, Fox L, Adler AJ, Weston WW, et al. "Tell me about yourself": the patient centred interview. *Ann Intern Med* 2001; 134: 1079–1085.
29. Churchill LR and Schenck D. Healing skills for medical practice. *Ann Intern Med* 2008; 149: 720–724.

30. Schochet R, King J, Levine R, Clever S and Wright S. 'Thinking on my feet': an improvisation course to enhance students' confidence and responsiveness in the medical interview. *Educ Prim Care* 2013; 24: 119–124.
31. Fitzgerald FT. Curiosity. On being a doctor. *Ann Intern Med* 1999; 130: 70–72.
32. Lehmann LS, Brancati FL, Chen MC, Roter D and Dobs AS. The effect of bedside case presentations on patients' perceptions of their medical care. *N Engl Med J* 1997; 336: 1150–1155.
33. Peters M and Ten Cate O. Bedside teaching in medical education: a literature review. *Perspect Med Educ* 2013; 3: 76–88.
34. Kassirer JP. Clinical problem solving – a new feature in the Journal. *N Engl J Med* 1992; 326: 60–61.
35. Weaver M and Erby L. Standardized patients: a promising tool for health education and health promotion. *Health Promot Pract* 2012; 13: 169–174.
36. Novack DH, Suchman AL, Clark W, Epstein RM, Najberg E and Kaplan C. Calibrating the physician. Personal awareness and effective patient care. Working Group on Promoting Physician Personal awareness. American Academy on Physician and Patient. *JAMA* 1997; 278: 502–509.
37. Charon R. Narrative medicine: form, function, and ethics. *Ann Intern Med* 2001; 134: 83–87.
38. Wald HS, Borkan JM, Taylor JS, Anthony D and Reis SP. Fostering and evaluating reflective capacity in medical education: developing the REFLECT rubric for assessing reflective writing. *Acad Med* 2012; 87: 41–50.
39. Riess H and Kraft-Todd G. E.M.P.A.T.H.Y.: a tool to enhance nonverbal communication between clinicians and their patients. *Acad Med* 2014; 89: 1108–1112.